

## CLAIMS

I claim:

1. An amplified laser source for amplifying a laser projection  
5 comprising:  
a diode laser source modulated by a pulse generator  
applying an alternate high and low voltages higher and  
lower than a threshold voltages projecting a modulated  
10 optical signal;  
a first erbium doped fiber (EDF) for amplifying said  
modulated optical signal; and  
a set of Bragg gratings for receiving said modulated optical  
15 signal from said first EDF for reflecting a grating-specific  
pulse-distortion-reduced optical signal.
2. The amplified laser source of claim 1 further comprising:  
20 an EA modulator synchronized with said pulse generator for  
increasing an extinction ratio of said optical signals.
3. The amplified laser source of claim 2 further comprising:  
25 a second erbium doped fiber (EDF) for receiving and  
amplifying said optical signal from said Electro-Absorption  
(EA) modulator.
4. The amplified laser source of claim 3 wherein:  
30 said second erbium doped fiber (EDF) having a large mode  
area.

5. The amplified laser source of claim 3 wherein:
- 5       said second erbium doped fiber (EDF) having a length of several meters and a diameter greater than or equal to thirty-five micrometers.
6. The amplified laser source of claim 2 wherein:
- 10       said EA modulator is a semiconductor Electro-Absorption (EA) modulator.
7. An amplified laser source for amplifying a laser projection comprising:
- 15       a diode laser source modulated by a pulse generator applying an alternate high and low voltages higher and lower than a threshold voltages projecting a modulated optical signal;
- 20       a first erbium doped fiber (EDF) for amplifying said modulated optical signal;
- 25       a set of Bragg gratings for receiving said modulated optical signal from said first EDF for reflecting a grating-specific pulse-distortion-reduced optical signal;
- 30       an EA modulator synchronized with said pulse generator for increasing an extinction ratio of said optical signals; and
- a second erbium doped fiber (EDF) for receiving and amplifying said optical signal from said EA modulator wherein said second erbium doped fiber (EDF) having a length of several meters and a diameter greater than or equal to thirty-five micrometers.

8. An amplified laser source for amplifying a laser projection  
comprising:  
a set of Bragg gratings for reflecting a grating-specific  
pulse-distortion-reduced optical signal.
- 5
9. The amplified laser source of claim 8 further comprising:  
a diode laser source modulated by a pulse generator  
applying an alternate high and low voltages higher and  
lower than a threshold voltages projecting a modulated  
optical signal to said Bragg gratings.
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10. The amplified laser source of claim 9 further comprising:  
a first erbium doped fiber (EDF) for amplifying said  
modulated optical signal.
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11. The amplified laser source of claim 8 further comprising:  
an EA modulator synchronized with said pulse generator for  
increasing an extinction ratio of said optical signals.
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12. The amplified laser source of claim 11 further comprising:  
a second erbium doped fiber (EDF) for receiving and  
amplifying said optical signal from said EA modulator.
- 25
13. The amplified laser source of claim 12 wherein:  
said second erbium doped fiber (EDF) having a large mode  
area.
- 30

14. The amplified laser source of claim 12 wherein:  
said second erbium doped fiber (EDF) having a length of  
several meters and a diameter greater than or equal to  
thirty-five micrometers.
15. The amplified laser source of claim 11 wherein:  
said EA modulator is a semiconductor EA modulator.
16. A method for configuring an amplified laser source for  
amplifying a laser projection comprising:  
employing a set of Bragg gratings for reflecting a  
grating-specific pulse-distortion-reduced optical signal.
17. The method of claim 16 further comprising:  
modulating a diode laser source by a pulse generator  
applying an alternate high and low voltages higher and  
lower than a threshold voltages for projecting a modulated  
optical signal to said Bragg gratings.
18. The method of claim 17 further comprising:  
amplifying an optical signal from said diode laser by a first  
erbium doped fiber (EDF).
19. The method of claim 17 further comprising:  
transmitting said optical signals via an EA modulator  
synchronized with said pulse generator.

- 5                   20.     The method of claim 18 further comprising:  
  
                  implementing a second erbium doped fiber (EDF) for  
                  receiving and amplifying said optical signal from said EA  
                  modulator.
- 10                  21.     The method of claim 20 wherein:  
  
                  said step implementing a second EDF is a step of  
                  implementing said second erbium doped fiber (EDF) having  
                  a large mode area.
- 15                  22.     The method of claim 20 wherein:  
  
                  said step implementing a second EDF is a step of  
                  implementing said second erbium doped fiber (EDF) having  
                  a length of several meters and a diameter greater than or  
                  equal to thirty-five micrometers.
- 20                  23.     The method of claim 19 wherein:  
  
                  transmitting said optical signals via an EA modulator is a  
                  step of transmitting said optical signals via a semiconductor  
                  EA modulator.
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